

**Disposal Authorization Statement  
for the  
Savannah River Site  
Saltstone Disposal Facility**

**Background**

The Saltstone Disposal Facility (SDF) is authorized to operate under this Disposal Authorization Statement (DAS) (Revision 1). The revised DAS requirements ensure the facility does not pose a threat to human health and the environment, defines the authorization for the design, construction, operation, monitoring, and closure of the SDF, and is a requirement under the Department of Energy's (DOE) Radioactive Waste Management Manual 435.1-1. The original DAS (Revision 0) was granted on September 28, 1999. This revision enhances the regulatory oversight of the facility and is based on the facility's current performance assessment (PA), composite analysis (CA), monitoring plan, maintenance plan, and closure plan documentation.

**Disposal Authorization Statement**

In accordance with the requirement of DOE's *Radioactive Waste Management Manual* 435.1-1, the Low-Level Waste Disposal Facility Federal Review Group's (LFRG) review of the facility's current PA (SRR-CWDA-2009-00017, R0), and related supporting documentation, this 2012 DAS (Revision 1) is hereby issued permitting the Savannah River Site (SRS) to continue to receive, store, and dispose of low-level radioactive waste at the SDF and initiate disposing of salt waste in the newly designed disposal cells.

The site shall conduct its low-level radioactive waste disposal program in accordance with the requirements contained in the following documents and subsequent approved revisions. These documents are required to be included in the DOE approved Radioactive Waste Management Basis (RWMB) for the SDF Facility:

PA (*Performance Assessment for the Saltstone Disposal Facility at the Savannah River Site*, SRR-CWDA-2009-00017, Revision 0, dated October 29, 2009) including the following additional analyses:

- Nuclear Regulatory Commission (NRC) Requests for Additional Information (RAI) Response (*Comment Response Matrix for Nuclear Regulatory Commission (NRC) Requests for Additional Information (RAIs) on the Saltstone Disposal Facility Performance Assessment (SRR-CWDA-2009-00017, Revision 0, dated October 29, 2009), SRR-CWDA-2010-00033, Revision 1, dated July 23, 2010*);

- NRC RAI Response (*Comment Response Matrix for Nuclear Regulatory Commission RAI-2009-02 Second Request for Additional Information (RAI) on the Saltstone Disposal Facility Performance Assessment (SRR-CWDA-2009-00017, Revision 0, dated October 29, 2009), SRR-CWDA-2011-00044, Revision 1, dated August 2011*);
- SDF Goldsim Model (*Saltstone Disposal Facility Stochastic Fate and Transport Model, SRR-CWDA-2011-00178, Revision 0, dated January 2012*);
- SDF Analyses (*Uncertainty and Sensitivity Analyses for Saltstone Disposal Facility Performance Assessment Case A and Alternative Sensitivity Case K, SRR-CWDA-2011-00188, Revision 0, dated January 2012*); and
- Technetium Sorption Measurements (*Technetium Sorption by Cementitious Materials Under Reducing Conditions, SRNL-STI-2011-0076, Revision 0, dated January 2012*).

Composite Analysis (*Savannah River Site DOE 435.1 Composite Analysis, SRNL-STI-2009-00512, Revision 0, June 10, 2010*)

Performance Assessment Maintenance Plan (*Savannah River Site Liquid Waste Facilities Performance Assessment Maintenance Program – FY2012 Implementation Plan, SRR-CWDA-2012-00020, R0, March 1, 2012*)

Composite Analysis Maintenance Plan (*E-Area Low-Level Waste Facility Performance Assessment and Savannah River Site Composite Analysis Maintenance Program – FY2011 Implementation Plan, SRNS-STI-2011-00130, R0, March 31, 2011*)

Composite Analysis Monitoring Plan (*Composite Analysis Monitoring Plan for the E-Area Low-Level Waste Facility and the Z-Area Saltstone Disposal Facility, SRNL-RP-2009-00333, R0, April 30, 2009*)

Performance Assessment Monitoring Plan (*Performance Assessment Monitoring Plan for the Z-Area Saltstone Disposal Facility, WSRC-RP-2000-00325, Revision 0, June 21, 2000*)

Closure Plan (*Closure Plan for the Z-Area Saltstone Disposal Facility, WSRC-RP-2000-00426, Revision 0, September 29, 2000*)

Waste Acceptance Criteria Manual (*Waste Acceptance Criteria for Aqueous Waste Sent to the Z-Area Saltstone Production Facility, X-SD-Z-00001, Revision 10, March, 2011*)

*Waste Acceptance Criteria, Waste Compliance Plan, and Special Waste Compliance Plan, (Manual S4, ENG.08, Revision 4, September 27, 2010)*

Radioactive Waste Management Basis (*Savannah River Remediation LLC (SRR) Saltstone Facility Radioactive Waste Management Basis, Q-RWM-Z-00001, Revision 0, March 1, 2011*)

Unreviewed Waste Management Question Procedure (*LW Unreviewed Waste Management Question (UWMQ), Manual S4: Procedure ENG.46, Revision 2, March 23, 2012*)

This revised DAS is subject to all applicable rules and orders now or hereafter in effect and to the conditions specified below. Any revisions and additions to the above documents in accordance with the PA and CA maintenance plan are incorporated into this authorization. Applicable permits and reports that comprise the RWMB shall be approved and maintained according to the applicable DOE orders and regulations.

#### **Facility Construction and Design**

Disposal operations are to be performed in the SDF. The design features of disposal units in the SDF shall conform to the conceptual model used in the PA. Significant changes in the disposal technology, disposal unit, or waste form shall be evaluated in accordance with the PA/CA maintenance plan and Unreviewed Waste Management Question (UWMQ) procedures. If required, changes shall be submitted to the LFRG for review in accordance with the *LFRG Program Management Plan* (dated September 18, 2000).

#### **Radionuclide Limits, Waste Form, and Packaging**

The disposal units within the SDF shall have waste acceptance criteria which provide specific radionuclide disposal limits, waste form restrictions, and descriptions of acceptable waste packages. The waste acceptance criteria (WAC) shall be based on the facility PA and any special analyses. Waste acceptance procedures shall describe waste characterization, waste certification, record keeping, and deviation requirements. Wastes received for disposal must conform to the waste acceptance procedures or have an authorized deviation. The WAC shall be included in the RWMB, reviewed and approved through DOE's approval process for the facility RWMB.

#### **Closure**

The closure plan for the SDF must be revised, if necessary, to accommodate any deviations from the closure concept analyzed in the PA.

#### **Monitoring**

The monitoring plan shall be updated, if necessary, to accommodate any deviations from the conceptual model analyzed in the PA. Within one year of this DAS issuance, an updated monitoring plan shall be submitted to DOE for approval or a justification provided as to why the existing monitoring plan is consistent with the PA. The monitoring plan shall be evaluated annually as part of the PA maintenance program and an update, if required, should be submitted for approval by DOE as necessary. The plan shall include monitoring frequencies and protocols for all the data collection required to assess the continued performance of the disposal facility. The plan shall also include a requirement for comparison of the monitoring results to forecasted behavior and for development of any corrective actions necessary.

### **PA and CA Maintenance**

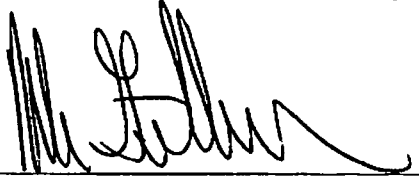
The PA and CA maintenance program shall follow guidance found in the *Maintenance Guide for U.S. Department of Energy Low-Level Waste Disposal Facility Performance Assessments and Composite Analyses* (November 10, 1999). Changes in the disposal facility operations site policy or strategy and consequent changes in disposal facility controls shall be managed according to the PA and CA maintenance program. Changes and discoveries shall be reviewed through the UWMQ process and submitted to the LFRG for review if required. If after analysis, the facility exceeds the performance objectives/measures, operations will be suspended and the LFRG will be informed immediately. Exceeding one or more of the performance objectives/measures is a violation of this DAS. The site shall perform an annual PA and CA adequacy review and the status shall be provided to the LFRG.

### **SDF PA and CA Conditions**

The maintenance plan shall include activities to resolve each of the secondary issues identified in the PA review that have not been closed. The secondary issues are described in the review team report (*The Review Team Report on the Performance Assessment for the Saltstone Disposal Facility at the Savannah River Site*, November 4, 2009).

### **Violation of Operational Requirements**

Operational procedures will be developed in accordance with the list of documents in the DAS section of this document. The implementation of these procedures shall ensure the SDF is operated in a manner that protects the worker, the public, and the environment. Violation of these procedures will be handled in accordance with the appropriate corrective action programs (Non-Conformance Report, Problem Identification Report, and Root Cause Analysis, etc.). The LFRG site representative is responsible for evaluating violations to operating procedures, as appropriate, and informing the LFRG as necessary of potential DAS violations. A DAS violation has occurred if the performance objectives/measures identified in DOE *Radioactive Waste Management* Manual 435.1-1 have been exceeded.



Mark A. Gilbertson  
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Site Restoration

5/21/12  
Date